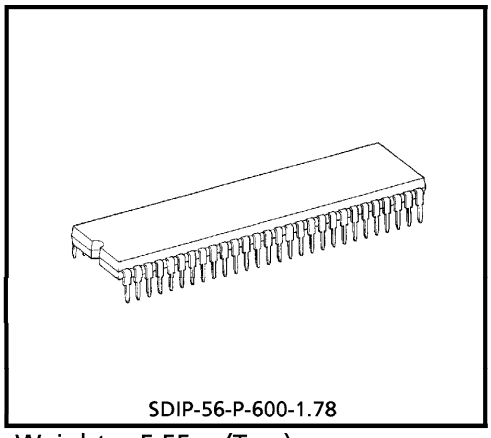
TENTATIVE TOSHIBA BIPOLAR LINEAR INTEGRATED CIRCUIT SILICON MONOLITHIC

TA1252AN

NTSC VIDEO, CHROMA, DEFLECTION, AND DISTORTION COMPENSATION IC

TA1252AN is Video Chroma and deflection signal. Processing IC for NTSC. On a 56-pin shrink DIP package. TA1252AN has deflection distortion compensation. TA1252AN has a function to defect EDTV2 signals. The result is output on the Read Bus. TA1252AN uses an I^2C Bus controls for controllings and settings.



SDIP-56-P-600-1.78

Weight : 5.55 g (Typ.)

FEATURES

Video Signal Processing

- Built-in Y delay line
- Black stretch
- DC restoration ratio compensation
- Aperture controlled sharpness
- Output for velocity scan modulation (VSM)
- White peak suppression (WPS)
- EDTV2-NRZ signal detection (Output on Read Bus.)

Chroma Signal Processing

- Built-in chroma BPF / TOF
- R-Y and B-Y outputs
- Color / BW situation output by read bus
- 3.58 MHz continuos wave (CW) output

Sync Signal Processing

- Counts down 32 f_H
- Dual AFC
- Vertical AGC
- HD and VD outputs
- Vertical frequency fixed mode
- Horizontal and Vertical position alignment
- DC outputs for vertical centering

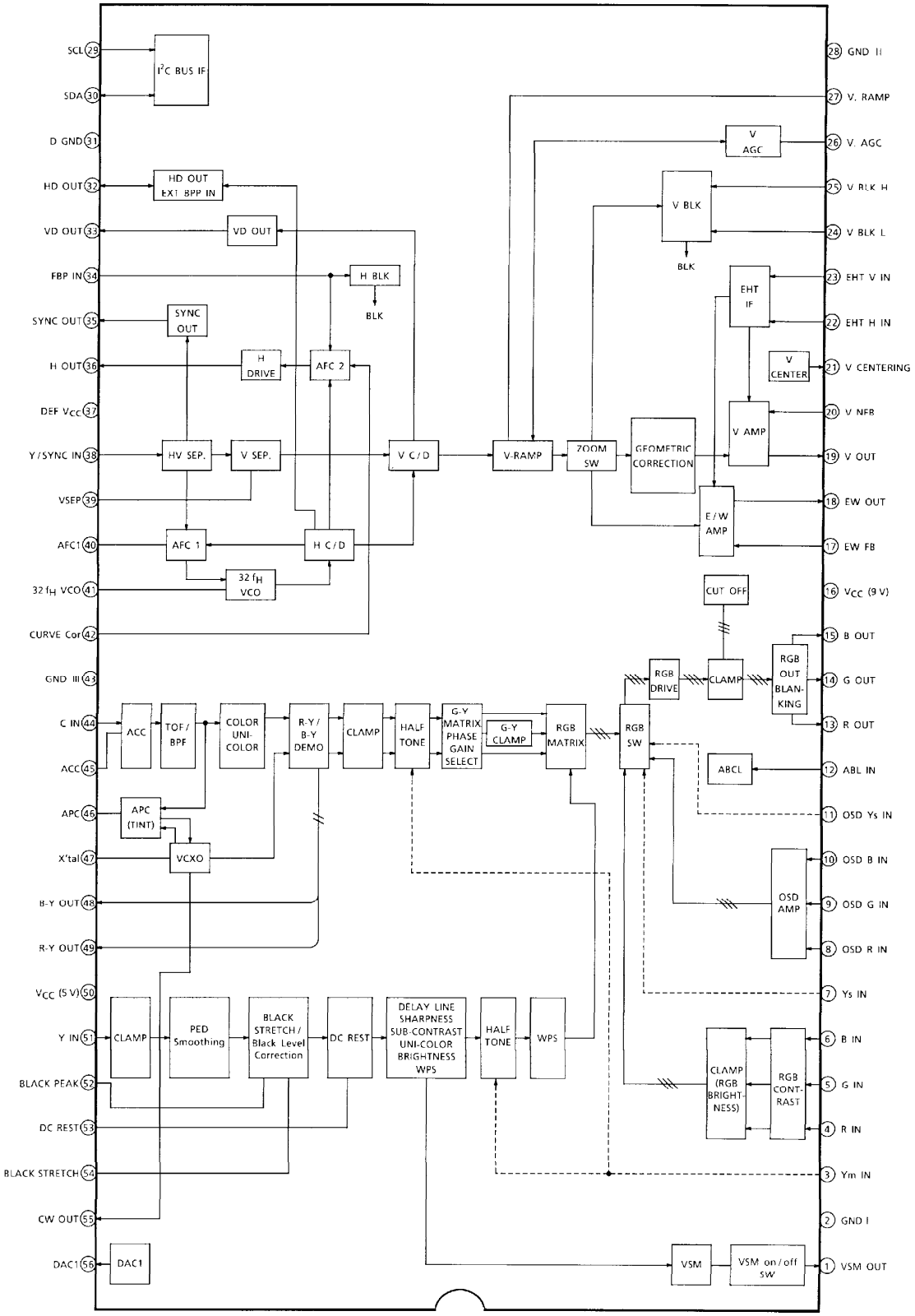
Text Signal Processing

- Analog RGB inputs
- Digital RGB inputs
- Halftone switch (Y_M)
- Cutoff and drive alignment

Deflection Correction Function

- Horizontal and Vertical amplitude adjustment
- Vertical linearity correction
- Vertical S correction
- Vertical EHT correction
- E / W parabola correction
- E / W corner correction
- E / W trapezium correction
- E / W EHT correction

BLOCK DIAGRAM



BUS CONTROL MAP
Slave address : 88H (WRITE) / 89H (READ)

	D_7	D_6	D_5	D_4	D_3	D_2	D_1	D_0
00	ABL POINT		UNI-COLOR					
01	TEST	BRIGHTNESS						
02	Y-MUTE	COLOR						
03	TINT							TOF-SW
04	SHARPNESS						ABL GAIN	
05	VERTICAL CENTERING							MODE
	RGB BRIGHTNESS				VERTICAL POSITION			
06	G DRIVE GAIN							BST-SW
07	B DRIVE GAIN							VSM-G
08	R CUT OFF							
09	G CUT OFF							
0A	B CUT OFF							
0B	HORIZONTAL POSITION					C-CORE	V CL	(1)
0C	VERTICAL SIZE						ZOOM	SERVICE
0D	HORIZONTAL SIZE						HV-FIX	V-AGC
0E	E / W PARABOLA					V-S CORRECTION		
0F	V-LIN CORRECTION				SUB CONTRAST			
10	E / W TRAPEZIUM				E / W CORNER			

READ MODE

	PORES	Y-IN	RGB-OUT	H-OUT	V-OUT	EW-OUT	COLOR	ED2

The preset value for D_7 is 1. The preset values for D_0 to D_6 are 0.

The content of the sub address [05H] varies according to the [MODE] setting.

While the Read bus for acknowledging EDTV2 signals is being used, VCL is fixed to 4 fH.

EDTV2 signals acknowledging function is only guaranteed for high-field signal inputs. As for low-field and ghost signal inputs, the acknowledging function must be carefully evaluated by the user before actual usage.

BUS CONTROL CHARACTERISTICS BY FUNCTION
Write mode
Slave address : 88H

ITEM	DATA	No. OF BITS	PRESET VALUE
Unicolor (UNI-COLOR) / RGB Contrast	000000 ; – 18 dB 111111 ; 0 dB	6	– 18 dB (000000)
Brightness (sub-brightness included) (BRIGHTNESS)	0000000 ; – 40 IRE 1111111 ; + 40 IRE	7	– 40 IRE (0000000)
Color (sub-color included) (COLOR)	0000000 ; – ∞ 1111111 ; + 6 dB	7	– ∞ (0000000)
Tint (sub-tint included) (TINT)	0000000 ; – 32° 1111111 ; + 32°	7	± 0° (1000000)
Picture Sharpness (PICTURE-SHARPNESS)	000000 ; – 6 dB 111111 ; + 12 dB (at 2.4 MHz)	6	+ 6 dB (100000)
Sub Contrast (SUB-CONTRAST)	0000 ; – 3 dB 1111 ; + 3 dB	4	– 3 dB (1000)
DC Output for Vertical Centering (VERTICAL CENTERING)	0000000 ; 1.0 V 1111111 ; 4.0 V (When in MODE [WIDE])	7	Center (1000000)
Mode SW (MODE)	The content of the sub address [05H] varies according to the [MODE] setting. 0 ; WIDE (16 : 9) 1 ; normal (4 : 3)	1	WIDE (0)
RGB Brightness (RGB-BRIGHTNESS)	0000 ; – 20 IRE 1111 ; + 20 IRE (When in MODE [normal])	4	Center (1000)
RGB Cut Off (RGB-CUTOFF)	00000000 ; – 0.5 V 11111111 ; + 0.5 V	8 × 3	– 0.5 V (00000000)
G / B Drive Gain (GB-DRIVE GAIN)	0000000 ; – 5 dB 1111111 ; + 3 dB	7 × 2	Center (1000000)
VSM Gain (VSM-G)	0 ; ON 1 ; OFF	1	ON (0)
Zoom Mode Switching (ZOOM)	0 ; normal 1 ; ZOOM Analog BLK ON by PIN DC control.	1	normal (0)
Black Stretch / Black Correction Mode Switching	0 ; Black Stretch Mode 1 ; Black Correction Mode	1	Black stretch (0)
ABL Detection Voltage (ABL POINT)	00 ; MIN 11 ; MAX	2	Center (10)
ABL Sensitivity (ABL GAIN)	00 ; MIN 11 ; MAX	2	MIN (00)
Horizontal Position (HORIZONTAL POSITION)	00000 ; – 3 μs (left shift) 11111 ; + 3 μs	5	Center (10000)
Horizontal and Vertical Frequency Fixed Mode (HV-FIX)	0 ; normal 1 ; AFC OFF (Free run) & V = 262H	1	normal (0)
Vertical Pulse Phase (VERTICAL-PULSE PHASE)	000 ; 0H 111 ; 7H DELAY (When in MODE [normal])	3	0H (000)

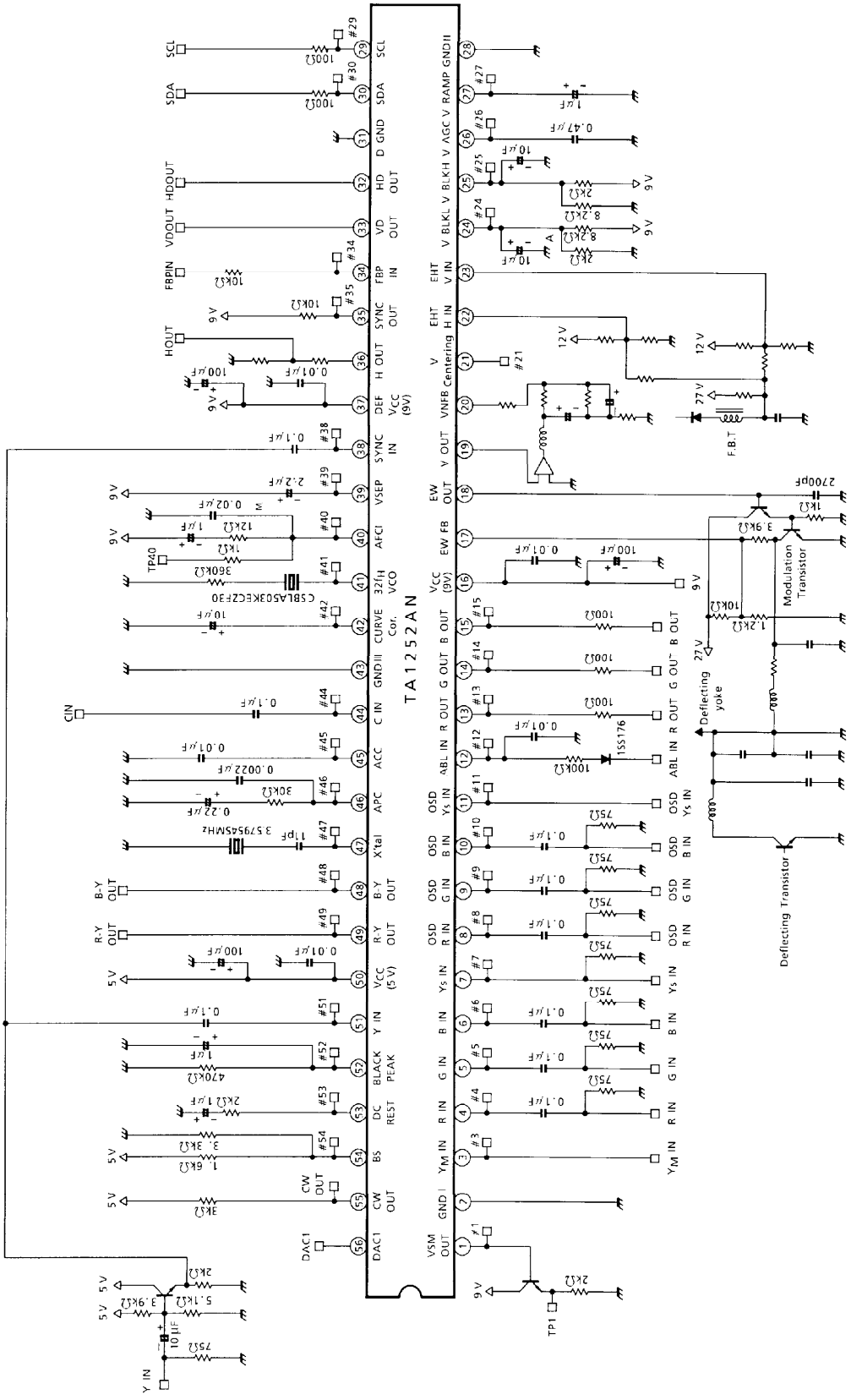
ITEM	DATA	No. OF BITS	PRESET VALUE
Service Mode (SERVICE)	0 ; normal 1 ; Service mode (V-Stop)	1	normal (0)
Test Mode (TEST MODE)	0 ; RGB BLK OFF 1 ; normal	1	normal (0)
TOF Switching (TOF-SW)	0 ; BPF mode 1 ; TOF mode	1	BPF (0)
V-AGC Time Constant (V-AGC)	0 ; fast 1 ; slow	1	fast (0)
Vertical Amplitude (VERTICAL SIZE)	000000 ; MIN 111111 ; MAX	6	Center (100000)
Vertical Linearity Correction (V-LIN CORRECTION)	0000 ; Lower stretch 1111 ; Upper stretch	4	Center (1000)
Vertical S Correction (V-S CORRECTION)	000 ; S MAX 111 ; Reverse S MAX	3	(000)
Horizontal Amplitude (HORIZONTAL SIZE)	000000 ; MIN 111111 ; MAX	6	Center (100000)
E / W Parabola Correction (E / W PARABOLA)	00000 ; MIN 11111 ; MAX	5	Center (10000)
E/W Corner Correction (E / W CORNER)	0000 ; Vertical expansion 1111 ; Vertical compression	4	(0000)
E / W Trapezium Correction (E / W TRAPEZIUM)	00000 ; Expansion downward 11111 ; Expansion upnward	5	Center (10000)
Vertical Clock Switching (V CL)	0 ; 2 f_H 1 ; 4 f_H	1	2 f_H (0)
Internal Curve Correction (C-CORE)	0 ; OFF 1 ; ON (RGB information is convoluted on the CURVE Cor Pir.)	1	OFF (0)
Y Mute (Y MUTE)	0 ; OFF 1 ; ON	1	ON (1)

READ MODE
Slave address : 89H

D_7	D_6	D_5	D_4	D_3	D_2	D_1	D_0
PONRES	Y-IN	RGB-OUT	H-OUT	V-OUT	EW-OUT	COLOR	ED2

ITEM	DATA
POWER ON RESET (PORES)	0 ; normal 1 ; RESISTER PRESET
Color Mode (COLOR)	0 ; B / W 1 ; NTSC
ED2 Indentification	0 ; non-ED2 1 ; ED2
Self Diagnosis Result Output (RGB-OUT / Y-IN / H-OUT / V-OUT / E-W OUT / UV-IN)	0 ; NG 1 ; OK

APPLICATION CIRCUIT



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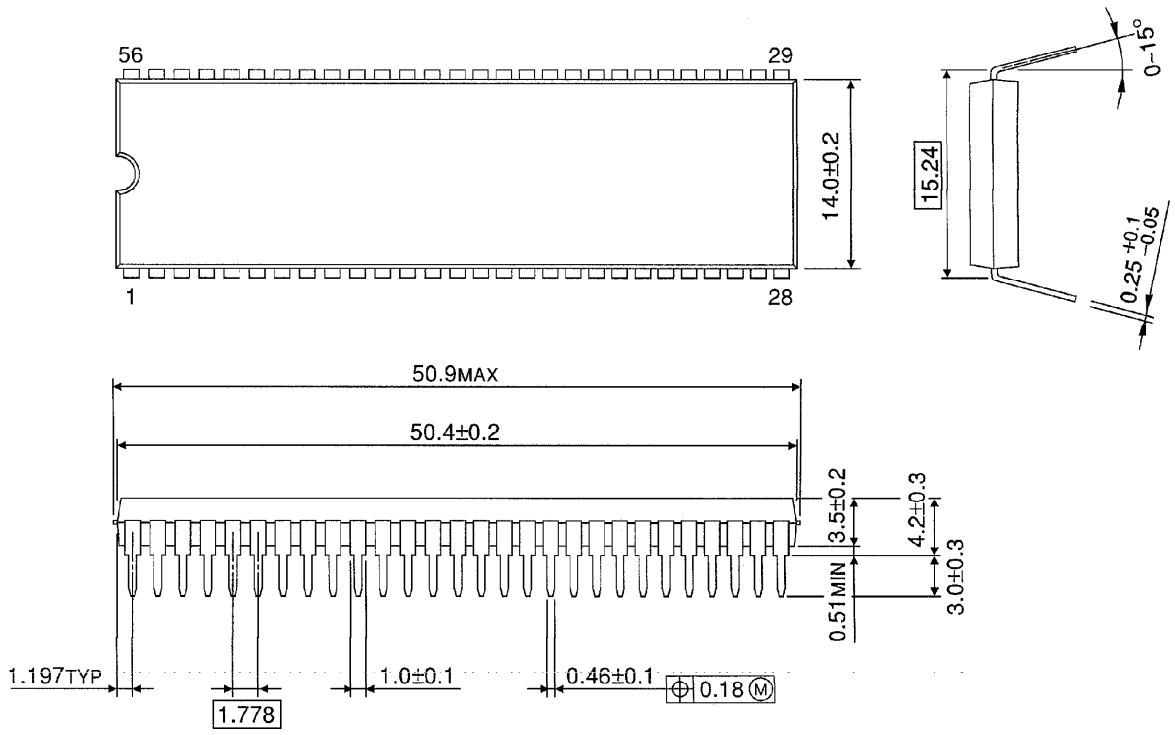
PACKAGE DIMENSIONS

SDIP56-P-600-1.78 Unit : mm



Weight : 5.55 g (Typ.)

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